IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	
Tatsuya HAGA et al.	Int'l. Appln. No.: PCT/JP00/05545
Appl. No. Unassigned	Int'l. Filing Date: August 18, 2000
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For: HIGH-AFFINITY CHOLINE TRANSPORTER	Customer No. 26694 PATENT TRADEMARK OFFICE

Preliminary Amendment

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to calculation of the fees, please amend claims 24-27, 29-33, 35-38, 40-48, 50-52 and 56-63 attached to the specification as follows:

24. (Amended) A fusion protein being constructed by expressing a cDNA encoding fusion proteins of a protein having high-affinity choline transporter activity and a marker protein and/or a peptide tag, wherein the protein having high-affinity choline transporter activity has nematode high-affinity choline transporter activity according to claim 16.

25. (Amended) A fusion protein being constructed by expressing a cDNA encoding fusion proteins of a protein having high-affinity choline transporter activity and a marker protein and/or a peptide tag, wherein the protein having high-affinity choline transporter activity has rat high-affinity choline transporter activity according to claim 18.

26. (Amended) A fusion protein being constructed by expressing a cDNA encoding fusion proteins of a protein having high-affinity choline transporter activity and a marker protein and/or a peptide tag, wherein the protein having high-affinity choline transporter activity has human high-affinity choline transporter activity according to claim 20.

27. (Amended) A fusion protein being constructed by expressing a cDNA encoding fusion proteins of a protein having high-affinity choline transporter activity and a marker protein and/or a peptide tag, wherein the protein having high-affinity choline transporter activity has mouse high-affinity choline transporter activity according to claim 22.

29. (Amended) An antibody which specifically binds to a protein having high-affinity choline transporter activity, wherein the protein having high-affinity choline transporter activity has nematode high-affinity choline transporter activity according to claim 16.

30. (Amended) An antibody which specifically binds to a protein having high-affinity choline transporter activity, wherein the protein having high-affinity choline transporter activity has rat high-affinity choline transporter activity according to claim 18.

31. (Amended) An antibody which specifically binds to a protein having high-affinity choline transporter activity, wherein the protein having high-affinity choline transporter activity has human high-affinity choline transporter activity according to claim 20.

32. (Amended) An antibody which specifically binds to a protein having high-affinity choline transporter activity, wherein the protein having high-affinity choline transporter activity has mouse high-affinity choline transporter activity according to claim 22.

33. (Amended) The antibody according to claim 28, wherein the antibody is a monoclonal antibody.

35. (Amended) A host cell containing an expression system which can express a protein having high-affinity choline transporter activity, wherein the protein having high-affinity choline transporter activity has nematode high-affinity choline transporter activity according to claim 16.

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36. (Amended) A host cell containing an expression system which can express a protein having high-affinity choline transporter activity, wherein the protein having high-affinity choline transporter activity has rat high-affinity choline transporter activity according to claim 18.

37. (Amended) A host cell containing an expression system which can express a protein having high-affinity choline transporter activity, wherein the protein having high-affinity choline transporter activity has human high-affinity choline transporter activity according to claim 20.

38. (Amended) A host cell containing an expression system which can express a protein having high-affinity choline transporter activity, wherein the protein having high-affinity choline transporter activity has mouse high-affinity choline transporter activity according to claim 22.

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40. (Amended) A non-human animal whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient or overexpresses on its chromosome, wherein the protein having high-affinity choline transporter activity has nematode high-affinity choline transporter activity according to claim 16.

41. (Amended) A non-human animal whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient or overexpresses on its

chromosome, wherein the protein having high-affinity choline transporter activity has rat high-affinity choline transporter activity according to claim 18.

42. (Amended) A non-human animal whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient or overexpresses on its chromosome, wherein the protein having high-affinity choline transporter activity has human high-affinity choline transporter activity according to claim 20.

43. (Amended) A non-human animal whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient or overexpresses on its chromosome, wherein the protein having high-affinity choline transporter activity has mouse high-affinity choline transporter activity according to claim 22.

44. (Amended) The non-human animal according to claim 39, wherein the non-human animal is a mouse or a rat.

45. (Amended) A preparing method of a cell having high-affinity choline transporter activity characterized in introducing the gene according to claim 8 into a cell whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient on its chromosome.

46. (Amended) A preparing method of a cell having high-affinity choline transporter activity characterized in introducing the gene according to claim 8 into a cell whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient on its chromosome, wherein the cell having high-affinity choline transporter activity is integrated with the gene in its chromosome, and stably shows high-affinity choline transporter activity.

47. (Amended) A cell having high-affinity choline transporter activity being obtainable by the preparing method of a cell having high-affinity choline transporter activity according to claim 45.

48. (Amended) A screening method of a promoter or a suppressor of high-affinity choline transporter activity characterized in measuring/evaluating high-affinity choline transporter activity of the protein having high-affinity choline transporter activity according to claim 14 in the presence of a subject material.

50. (Amended) A screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression characterized in comprising the steps of: a cell membrane or a cell which expresses a protein having high-affinity choline transporter activity is cultivated in vitro in the presence of a subject material; the activity and/or the expression amount of a protein having high-affinity choline transporter activity in the cell membrane or the cell is measured/evaluated, wherein the cell membrane or the cell which expresses a protein having high-affinity choline transporter activity is the host cell containing an expression system which can express a protein having high-affinity choline transporter activity according to claim 34.

51. (Amended) The screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression according to claim 48, wherein the protein having high-affinity choline transporter activity is a recombinant protein.

52. (Amended) A screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression characterized in comprising the steps of: a cell obtained from the non-human animal according to claim 39 is cultivated in vitro in the presence of a subject material; the activity and/or the expression

A5 amount of a protein having high-affinity choline transporter activity in the cell is measured/evaluated.

56. (Amended) The screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression according to claim 52, wherein the non-human animal is a mouse or a rat.

57. (Amended) A material which promotes activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to claim 48.

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58. (Amended) A material which suppresses activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to claim 48.

59. (Amended) A medical constituent characterized in being used for a medical treatment for a patient who needs elevation of the activity or enhancement of the expression of a high-affinity choline transporter, and containing the protein according to claim 14.

60. (Amended) A medical constituent characterized in being used for medical treatment for a patient who needs suppression of the activity or the expression of a high-affinity choline transporter, and containing the protein according to claim 14.

61. (Amended) A diagnostic method for diseases relating to the expression or the activity of a high-affinity choline transporter characterized in comparing a DNA sequence encoding a high-affinity choline transporter in a sample to a DNA sequence encoding the protein according to claim 19.

62. (Amended) A diagnostic probe for Alzheimer's disease comprising a whole or a part of an antisense strand of DNA or RNA encoding the protein according to claim 19.

63. (Amended) A diagnostic drug for Alzheimer's disease characterized in containing the diagnostic probe according to claim 62.

Please add the following new claims:

64. (New) A preparing method of a cell having high-affinity choline transporter activity characterized in introducing the DNA according to claim 9 into a cell whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient on its chromosome.

65. (New) A preparing method of a cell having high-affinity choline transporter activity characterized in introducing the DNA according to claim 9 into a cell whose function of a gene which encodes a protein having high-affinity choline transporter activity is deficient on its chromosome, wherein the cell having high-affinity choline transporter activity is integrated with the DNA in its chromosome, and stably shows high-affinity choline transporter activity.

66. (New) A cell having high-affinity choline transporter activity being obtainable by the preparing method of a cell having high-affinity choline transporter activity according to claim 46.

67. (New) A cell having high-affinity choline transporter activity being obtainable by the preparing method of a cell having high-affinity choline transporter activity according to claim 65.

68. (New) A screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression characterized in comprising the steps of: a cell membrane or a cell which expresses a protein having high-affinity choline transporter activity is cultivated in vitro in the presence of a subject material; the activity and/or the expression amount of a protein having high-affinity choline transporter activity in the cell membrane or the cell is measured/evaluated, wherein the cell membrane or the cell which expresses a protein having high-affinity choline transporter activity is the cell having high-affinity choline transporter activity according to claim 47.

69. (New) A screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression characterized in comprising the steps of: a cell membrane or a cell which expresses a protein having high-affinity choline transporter activity is cultivated in vitro in the presence of a subject material; the activity and/or the expression amount of a protein having high-affinity choline transporter activity in the cell membrane or the cell is measured/evaluated, wherein the cell membrane or the cell which expresses a protein having high-affinity choline transporter activity is the cell having high-affinity choline transporter activity according to claim 64.

70. (New) The screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression according to claim 49, wherein the protein having high-affinity choline transporter activity is a recombinant protein.

71. (New) The screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression according to claim 53, wherein the non-human animal is a mouse or a rat.

72. (New) The screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression according to claim 54, wherein the non-human animal is a mouse or a rat.

73. (New) The screening method of a promoter or a suppressor of high-affinity choline transporter activity, or of high-affinity choline transporter expression according to claim 55, wherein the non-human animal is a mouse or a rat.

74. (New) A material which promotes activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to claim 49.

75. (New) A material which promotes activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to claim 52.

76. (New) A material which promotes activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to claim 53.

77. (New) A material which promotes activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to claim 54.

78. (New) A material which promotes activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to claim 55.

79. (New) A material which suppresses activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to claim 49.

80. (New) A material which suppresses activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to claim 52.

81. (New) A material which suppresses activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to claim 53.

82. (New) A material which suppresses activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to claim 54.

83. (New) A material which suppresses activity or expression of a protein having high-affinity choline transporter activity being obtainable by the screening method according to claim 55.

84. (New) A medical constituent characterized in being used for a medical treatment for a patient who needs elevation of the activity or enhancement of the expression of a high-affinity choline transporter, and containing the material which promotes activity or expression of a protein having high-affinity choline transporter activity according to claim 57 as an active component.

85. (New) A medical constituent characterized in being used for a medical treatment for a patient who needs elevation of the activity or enhancement of the expression of a high-affinity choline transporter, and containing the material which promotes activity or

expression of a protein having high-affinity choline transporter activity according to claim 74 as an active component.

86. (New) A medical constituent characterized in being used for a medical treatment for a patient who needs elevation of the activity or enhancement of the expression of a high-affinity choline transporter, and containing the material which promotes activity or expression of a protein having high-affinity choline transporter activity according to claim 75 as an active component.

87. (New) A medical constituent characterized in being used for a medical treatment for a patient who needs elevation of the activity or enhancement of the expression of a high-affinity choline transporter, and containing the material which promotes activity or expression of a protein having high-affinity choline transporter activity according to claim 76 as an active component.

88. (New) A medical constituent characterized in being used for a medical treatment for a patient who needs elevation of the activity or enhancement of the expression of a high-affinity choline transporter, and containing the material which promotes activity or expression of a protein having high-affinity choline transporter activity according to claim 77 as an active component.

89. (New) A medical constituent characterized in being used for a medical treatment for a patient who needs elevation of the activity or enhancement of the expression of a high-affinity choline transporter, and containing the material which promotes activity or expression of a protein having high-affinity choline transporter activity according to claim 78 as an active component.

90. (New) A medical constituent characterized in being used for medical treatment for a patient who needs suppression of the activity or the expression of a high-affinity choline

transporter, and containing the material which suppresses the activity or the expression of a protein having high-affinity choline transporter activity according to claim 58 as an active component.

91. (New) A medical constituent characterized in being used for medical treatment for a patient who needs suppression of the activity or the expression of a high-affinity choline transporter, and containing the material which suppresses the activity or the expression of a protein having high-affinity choline transporter activity according to claim 79 as an active component.

92. (New) A medical constituent characterized in being used for medical treatment for a patient who needs suppression of the activity or the expression of a high-affinity choline transporter, and containing the material which suppresses the activity or the expression of a protein having high-affinity choline transporter activity according to claim 80 as an active component.

93. (New) A medical constituent characterized in being used for medical treatment for a patient who needs suppression of the activity or the expression of a high-affinity choline transporter, and containing the material which suppresses the activity or the expression of a protein having high-affinity choline transporter activity according to claim 81 as an active component.

94. (New) A medical constituent characterized in being used for medical treatment for a patient who needs suppression of the activity or the expression of a high-affinity choline transporter, and containing the material which suppresses the activity or the expression of a protein having high-affinity choline transporter activity according to claim 82 as an active component.

95. (New) A medical constituent characterized in being used for medical treatment for a patient who needs suppression of the activity or the expression of a high-affinity choline